CELL APPLICATIONS, INC.

B7-2/CD86 Antibody

Cat. No. CP10268

Applications:	**WB, IP**
Detected MW:	**52 kDa**
Species & Reactivity:	**Human, Mouse, Rat**
Isotype:	**Mouse IgG1**

BACKGROUND

B7-1 (CD80) and B7-2 (CD86) are related immunoglobulin supergene family members that are expressed by multiple cell types involved in antigen presentation. Both B7-1 and B7-2 are constitutively expressed on dendritic cells and are upregulated on monocytes, macrophages, B cells, and T cells following activation.[1] The upregulation on cells activated by various stimuli differs in terms of both the kinetics and density of expression of B7-1 and B7-2. B cells and monocytes, for example, upregulate B7-2 expression within 24 hr following activation with LPS, whereas B7-1 can only be detected 48 hr after activation, with the maximal cell surface expression being much less than observed with B7-2.

Generation of an effective immune response by T cells requires at least two signals from antigen-presenting cells: one mediated by specific antigen bound to MHC molecules and a second antigen-independent signal mediated by costimulatory ligands. The primary costimulatory receptor expressed on T cells is CD28. Interaction of CD28 with either of its ligands, B7-1 or B7-2, results in enhanced T cell proliferation and cytokine secretion. Interactions of either B7-1 or B7-2 with CTLA-4, a homolog of CD28 expressed on T cells, results in inhibition of T cell responses. A third costimulatory receptor, ICOS, was also identified that is a close structural homolog of CD28 and CTLA-4. ICOS is induced on activated T cells and can costimulate T cell proliferation and a different spectrum of T cell cytokine production, but it does not appear to act through binding to B7-1 or B7-2. Additionally, PD-1 is an inhibitory receptor, with two B7-like ligands.[2] Futhermore, The distinct functions for B7-1 and B7-2 may be involved in their role in TH_0, TH_1, or TH_2 differentiation. However, other studies suggest that B7-1 and B7-2 determine the magnitude of costimulatory signals rather than the outcome of TH subset differentiation. A third possibility is that, rather than having distinct CD28-dependent costimulatory roles, the key functional differences concern the strength and/or mode of binding of B7-2 and B7-1 to CD28 and CTLA-4. Interestingly, it was reported that Adenovirus serotype 3 utilizes B7-1 and B7-2as cellular attachment receptors, which suggests a mechanism whereby viral exploitation of these proteins as receptors may achieve both goals of cellular entry and evading the immune system.[3]

References

1. Lenschow, D.J. et al: Ann. Rev. Immunol. 14:233-58, 1996
2. Carreno, B.M. & Collins, M.: Ann. Rev. Immunol. 20:29-53, 2002
3. Short, J.J. et al: Virol. 322:349-59, 2004

TECHNICAL INFORMATION

Source:
B7-2/CD86 Antibody is a mouse monoclonal antibody raised against purified recombinant human B7-2/CD86 fragments expressed in *E. coli*.

Specificity and Sensitivity:
This antibody detects B7-2/CD86 proteins without cross-reactivity with other related proteins.

Storage Buffer: PBS and 30% glycerol

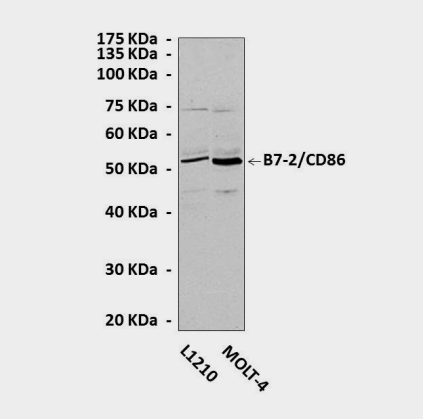
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	1:50
IHC	n/d
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Western Blot detection of endogenous B7-2/CD86 proteins in L1210 and MOLT-4 cell lysates using B7-2/CD86 Antibody.